

Between paragraph 1 and 2 insert the subheading -- BACKGROUND --

Between paragraphs 4 and 5 insert the subheading -- SUMMARY OF THE INVENTION --

Page 4, before the first paragraph insert the heading -- BRIEF DESCRIPTION OF THE DRAWINGS --

Between paragraphs 5 and 6 insert the subheading -- DETAILED DESCRIPTION --

IN THE CLAIMS

Cancel claims 10-14 and amend the remaining claims as follows:

1. (Amended) Fibre-reinforced pressure vessel (1, 6) comprising a rigid gas-or fluid-tight body of unidirection curvature (2, 7, 13, 19) overwound with fiber filaments (3, 10, 11, 18), whereby at least a number of fibre filaments (3, 10, 11, 18) are wound such that when the pressure vessel is under internal pressure, the fibre filaments (3, 10, 11, 18) are loaded exactly and exclusively in their longitudinal direction, no matrix material being applied to said fibre filaments in order to maintain free movement of the fibre filaments with respect to one another.

B1

3. (Amended) Fibre-reinforced pressure vessel according to claim 1,
whereby the pressure vessel (1) has an isotensoid shape with said continuous ^{1/2}_ω

B2

curvature.

4. (Amended) Fibre-reinforced pressure vessel according to claim 1,
whereby the pressure vessel (6) includes a portion with a cylindrical shape.

5. (Amended) Fibre-reinforced pressure vessel according to claim 1,
B2
whereby the pressure vessel (1, 6) is provided with a protective cover (20).

6. (Amended) Fiber-reinforced pressure vessel according to claim 5,
whereby the cover (2) comprises synthetic rubber.

7. (Amended) Fibre-reinforced pressure vessel according to claim 1,
whereby the rigid body (2, 7, 13, 19) is made of high-density polyethylene (HDPE)
and the fibre filaments (3, 10, 11, 18) are carbon or glass fibres.

9. (Amended) Fibre-reinforced pressure vessel according to claim 1,
B3
whereby the pressure vessel (1, 6) can withstand a working pressure up to 600
bar.

15. (Amended) Fibre-reinforced pressure vessel according to claim 9,
for resisting a working pressure of 35 bar for use as a gas tank for propane or
B4
butane or a mixture thereof for household uses.

16. (Amended) Fibre-reinforced pressure vessel according to claim 9,
for resisting working pressure of 300 bar for use as a fuel tank, for LPG, for
motor vehicles.

17. (Amended) Fibre-reinforced pressure vessel according to claim 9,
for resisting a working pressure up to 300 bar for use as a fuel tank for CNG or
compressed air.

18. (Amended) Fibre-reinforced pressure vessel according to claim 9,
for resisting a working pressure of 600 bar for use as a cryogenic gas system in
space technology application.

19. (Amended) Fibre-reinforced pressure vessel according to claim 1,
whereby the pressure vessel (1, 6) is provided with a appendage, comprising a
closure member or a pressure valve.

20. (Amended) Method of manufacturing a fibre-reinforced pressure
vessel comprising a rigid gas- or fluid-tight body overwound with fibre filaments,
whereby the method comprises the steps of:

- a) providing a rigid gas-or fluid-tight body, fibre filaments and winding
apparatus;
- b) overwinding the rigid body such that at least a number of fibre
filaments can move freely with respect to one another and the fibre filaments are

wound such that when the pressure vessel is under internal pressure vessel the fibre filaments are loaded exactly and exclusively in their longitudinal directions;

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no matrix material is provided which would cause the fibre filaments to become incorporated in the matrix material in that section of the pressure vessel in which the fibre filaments can move freely with respect to one another.

Add the following new claims:

23. (New) Fibre-reinforced pressure vessel according to claim 1, wherein the pressure vessel includes opposite end portions with isotensoid-shaped continuous surfaces and a cylindrical portion connecting said isotensoid end portions, said fibre filaments being wound circumferentially on said cylindrical portion and longitudinally on said end portions.

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24. (New) Fibre-reinforced pressure vessel according to claim 23, wherein said end portions of said pressure vessel are formed by isotensoid-shaped bodies which sealingly abut against said cylindrical portion at opposite ends thereof and are secured hereto by said overwound fibre filaments to resist the internal pressure.

25. (New) Fibre-reinforced pressure vessel according to claim 24, wherein said fibre filaments include longitudinal fibre filaments found on said end portions and circumferential fiber filaments would on said cylindrical portions.



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1. (Amended) Fibre-reinforced pressure vessel (1, 6) comprising a rigid gas-or fluid-tight body of unidirection curvature (2, 7, 13, 19) overwound with fiber filaments (3, 10, 11, 18), whereby at least a number of fibre filaments (3, 10, 11, 18) are wound such that when the pressure vessel is under internal pressure, the fibre filaments (3, 10, 11, 18) are loaded exactly and exclusively in their longitudinal direction, no matrix material being applied to said fibre filaments in order to maintain free movement of the fibre filaments with respect to one another.

3. (Amended) Fibre-reinforced pressure vessel according to claim 1, whereby the pressure vessel (1) has an isotensoid shape with said continuous curvature.

AUG 23 2002

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4. (Amended) Fibre-reinforced pressure vessel according to claim 1, whereby the pressure vessel (6) [has] includes a portion with a cylindrical shape.

5. (Amended) Fibre-reinforced pressure vessel according to claim 1, whereby the pressure vessel (1, 6) is provided with a [coating] protective cover (20).

6. (Amended) Fiber-reinforced pressure vessel according to claim 5, whereby the [coating] cover (2) comprises synthetic rubber.

7. (Amended) Fibre-reinforced pressure vessel according to claim 1,
whereby the rigid body (2, 7, 13, 19) is made of high-density polyethene (HDPE)
and the fibre filaments (3, 10, 11, 18) are carbon or glass fibres.

9. (Amended) Fibre-reinforced pressure vessel according to claim 1,
whereby the pressure vessel (1, 6) can withstand a working pressure up to 600
bar [in the range of 0.5 bar].

15. (Amended) Fibre-reinforced pressure vessel according to claim 9,
[suitable] for resisting a working pressure of 35 bar for use as a gas [flask] tank
for propane or butane or a mixture thereof for household uses.

16. (Amended) Fibre-reinforced pressure vessel according to claim
[12, suitable] 9, for resisting working pressure of 300 bar for use as a fuel tank,
[in particular] for LPG, for [use in] motor vehicles.

17. (Amended) Fibre-reinforced pressure vessel according to claim
[13, suitable] 9, for resisting a working pressure up to 300 bar for use as a fuel
tank for CNG or compressed air.

18. (Amended) Fibre-reinforced pressure vessel according to claim
[14, suitable] 9, for resisting a working pressure of 600 bar for use as a
cryogenic gas system in space technology application.

19. (Amended) Fibre-reinforced pressure vessel according to claim 1, whereby the pressure vessel (1, 6) is provided with a appendage, [for example] comprising a closure member or a pressure valve.

20. (Amended) Method of manufacturing a fibre-reinforced pressure vessel comprising a rigid gas- or fluid-tight body overwound with fibre filaments, whereby the method comprises the steps of:

- a) providing a rigid gas-or fluid-tight body, fibre filaments and winding apparatus;
- b) overwinding the rigid body such that at least a number of fibre filaments can move freely with respect to one another and the fibre filaments are wound such that when the pressure vessel is under internal pressure vessel the fibre filaments are loaded exactly and exclusively in their longitudinal directions; [whereby] no matrix material [(for example, resin)] is provided [such that] which would cause the fibre filaments [would] to become incorporated in [a] the matrix [for] material in that section of the pressure vessel in which the fibre filaments can move freely with respect to one another.